



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,257	06/01/2001	Conor P. Morrison	207497	4738

23460 7590 03/30/2005

LEYDIG VOIT & MAYER, LTD
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6780

EXAMINER

NGUYEN, VAN H

ART UNIT	PAPER NUMBER
----------	--------------

2194

DATE MAILED: 03/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/872,257	Applicant(s) MORRISON ET AL.	
	Examiner VAN H NGUYEN	Art Unit 2126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) 40-65 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/27/02</u> . | 6) <input type="checkbox"/> Other: _____ |

re

DETAILED ACTION

1. Applicant's election of group I (claims 1-39), filed October 27, 2004 is acknowledged. Because Applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 1-65 are pending in this application. Claims 40-65 are withdrawn from consideration.
3. Applicant is required to cancel non-elected claims 40-65 in the next response to this office action.

Information Disclosure Statement

4. The Applicants' Information Disclosure Statement, filed September 27, 2002 has been received, entered into the record, and considered. See attached form PTG 1449.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made

Art Unit: 2126

to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Beatty et al.** (US 5,748,489) in view of **Chang et al.** (US 5,706,516).

7. **As to claim 1:**

8. Beatty teaches the invention substantially including a method (*see the abstract*) for a first process (*e.g., one slave process*) running on a computing device (*e.g., a computer system*) to communicate (*e.g., communication*) with a second process (*e.g., another slave process*), the method comprising:
- i. creating a process table (*e.g., builds a routing table; col.7, lines 32-34*) on the computing device;
 - ii. rendering the process table accessible to the first process (*e.g., describes where to route information destined for the leaves 'i.e., slave processes'; col.8, lines 19-22*);
 - iii. associating a Unique Identifier with the second process (*e.g., the children receive these identifiers as part of their initialization information; col.6, lines 60-67*);
 - iv. creating an entry for the second process in the process table (*e.g., subsequent to each master process receiving a response from all its children...entries in the routing table; col.7, lines 26-38*);

Art Unit: 2126

- v. associating the Unique Identifier of the second process with the process entry for the second process in the process table (*e.g., when it spawned its children, assigned unique identifiers to all the boundary pins of the children; col.6, lines 53-62*);
 - vi. specifying a communications task to perform (*e.g., subsequent to establishing communication...the master processes schedule the operations; col.4, lines 21-29*); and
 - vii. using the Unique Identifier of the second process to specify that the communications task be performed with respect to the second process (*e.g., the slave processes perform the actual operations...execute complex task; col. 4, lines 25-29*).
 - viii. Beatty does teach the Unique Identifier, but does not specifically teach a Universally Unique Identifier.
 - ix. Chang teaches a Universally the Unique Identifier (*e.g., UUID; col.2, lines 49-62 and col.5, lines 40-51*).
 - x. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Chang and Beatty because Chang's teaching would have provided the capability for globally identifying a process among a plurality of processes running on the different nodes in the distributed computer system.
9. **As to claim 2:**
- i. Chang teaches shared memory (*e.g., shared memory; col.9, lines 29-32*).

Art Unit: 2126

- ii. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Chang and Beatty because Chang's teaching would have allowed the multiple processes to communicate and share common data, thus reducing disk I/O and improving performance.

10. **As to claim 3:**

- i. Beatty does teach coordinating access to the process table and to the process entry for the second process (*col. 7, lines 29-55*), but Beatty does not specifically teach the use of software locks.
- ii. Chang teaches the use of software locks (*e.g., lock manager; col. 4, lines 42-53*).
- iii. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Chang and Beatty because Chang's teaching would have provided the capability for managing access of the processes in the distributed computer system.

11. **As to claim 4:**

Beatty teaches writing status information about the second process into the process entry for the second process (*col. 6, lines 15-25*); and retrieving the status information about the second process by using the unique identifier of the second process to access the process entry for the second process in the process table (*col. 6, lines 52-67*). Refer to claim 1 above regarding the UUID.

12. **As to claim 5:**

Beatty teaches periodically writing a heartbeat update time (*col. 10, lines 14-24*) and wherein the method further comprises: comparing the heartbeat update time in the status

information to the current time (*col. 10, lines 25-36*); and determining if the second process is running based on the comparing of the times (*col. 10, lines 59-67*).

13. **As to claim 6:**

Beatty teaches specifying requesting information from a process (*col. 7, lines 26-37*) and wherein the method further comprises: specifying a type of information requested (*col. 8, lines 32-53*); and returning the information requested to the first process (*col. 7, lines 55-65*).

14. **As to claim 7:**

Beatty teaches the type of information requested is selected from the set: log output, console output (*col. 10, lines 14-22*).

15. **As to claim 8:**

Beatty teaches specifying a period of time during which to return the information requested (*col. 10, lines 31-36*); and wherein returning comprises returning the information requested during the specified period of time (*col. 10, lines 59-62*).

16. **As to claim 9:**

Beatty teaches returning the information requested until the first process indicates that the information need no longer be returned (*col. 10, lines 62-67*).

17. **As to claim 10:**

Beatty teaches specifying waiting for the second process to achieve a status (*col. 10, lines 29-36*).

Art Unit: 2126

18. As to claim 11:

Beatty teaches the status is in the set: initialized, debug_break, terminated (*see fig. 2 and the associated text*).

19. As to claim 12:

Beatty teaches specifying a communications task to perform comprises specifying sending a signal to the second process (*410; fig. 4*).

20. As to claim 13:

Beatty teaches sending a signal indicates that the process should terminate (*412; fig. 4*).

21. As to claim 14:

Beatty teaches associating a unique identifier with a third process (*col. 6, lines 60-67*); creating an entry for the third process in the process table (*col. 7, lines 26-38*); associating the unique identifier of the third process with the process entry for the third process in the process table (*col. 6, lines 53-62*); associating the unique identifier of the second process with the process entry for the third process in the process table (*col. 6, lines 53-62*); and using the unique identifier of the second process to specify that the communications task be performed with respect to the third process (*col. 4, lines 25-29*). Refer to claim 1 above regarding the UUID.

22. As to claim 15:

Beatty teaches the third process is a child of the second process (*see fig. 5b*).

23. As to claim 16:

Beatty teaches using the unique identifier of the second process to specify that the

Art Unit: 2126

communications task be performed with respect to all descendents of the second process (*col. 6, lines 53-62*). Refer to claim 1 above regarding the UUID.

24. As to claim 17:

Beatty teaches the second process runs on a second computing device distinct from the computing device on which the first process runs (*col. 4, lines 36-46*).

25. As to claim 18:

Beatty teaches associating an identifier of the second computing device (*col. 6, lines 53-54*) with the process entry for the second process in the process table (*col. 7, lines 32-33*); creating a second process table on the second computing device (*col. 7, lines 32-33 & 45-46 and col. 8, lines 19-22*); creating an entry for the second process in the second process table (*col. 7, lines 34-37*); and associating the unique identifier of the second process with the process entry for the second process in the second process table (*col. 7, lines 35-55*).

Refer to claim 1 above regarding the UUID.

26. As to claim 19:

Beatty teaches writing status information about the second process into the process entry for the second process in the second process table (*col. 6, lines 15-25*); and retrieving the status information about the second process by using the unique identifier of the second process to access the process entry for the second process in the second process table (*col. 6, lines 52-67*). Refer to claim 1 above regarding the UUID.

27. As to claim 20:

Beatty teaches a computer-readable medium having instructions for performing the method of claim 1 (*col. 3, lines 10-13*).

Art Unit: 2126

28. Claims 21-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Beatty et al.** (US 5,748,489) in view of **Chang et al.** (US 5,706,516), and further in view of Bala et al. "*Process groups: a mechanism for the coordination and communication among processes in the Venus collective communication library*" 1993 IEEE, pp. 614-620.

29. **As to claim 21:**

- i. The rejection of claim 1 above is incorporated herein in full. Additionally, Beatty further teaches a third process (*e.g., slave processes; see fig. 7*).
- ii. The combination of Beatty and Chang does teach the UUID, but does not specifically teach a group unique identifier.
- ii. Bala teaches the use of a group unique identifier (*e.g., a unique Process Group Identifier; section 2.1, page 615*).
- iii. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Bala with Beatty as modified by Chang because Bala's teaching would have allowed entire collections of processed to be identified and manipulated in a single call.

30. **As to claims 22-31:**

Refer to claims 2-11 above.

31. **As to claims 32-35:**

Refer to claims 10-13 above.

Art Unit: 2126

32. As to claim 36:

Refer to claim 17 above.

33. As to claim 37:

Beatty teaches associating an identifier of the second computing device (*col. 6, lines 60-67*) with the process entry for the second process in the process table (*col. 7, lines 26-38*); creating a second process table on the second computing device (*col. 7, lines 32-33 & 45-46 and col. 8, lines 19-22*); creating an entry for the second process in the second process table (*col. 7, lines 34-37*); and associating the unique identifier with the process entry for the second process in the second process table (*col. 7, lines 35-55*). Refer to claim 21 above regarding the group UUID

34. As to claims 38 and 39:

Refer to claims 19 and 20 above.

Conclusion

35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- (i) Gupta et al. (US 6629153) teaches "Method and apparatus for providing peer ownership of shared objects."
- (ii) Factor (US 6272523) teaches "Distributed networking using logical processes."

Art Unit: 2126

- (iii) Yamashita et al. (US 5371746) teaches "Program debugging system for a distributed data processing system."
- (iv) Ammann "DIPC – a monitor for distributed inter-process communication" 1995 IEEE, pp. 272-279.

- 36. Any inquiry or a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: (571) 272-2100.
- 37. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN H. NGUYEN whose telephone number is (571) 272-3765. The examiner can normally be reached on Monday-Thursday from 8:30AM - 6:00PM. The examiner can also be reached on alternative Friday.
- 38. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756.
- 39. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
- 40. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

Art Unit: 2126

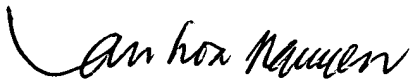
information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

Commissioner for patents

P O Box 1450

Alexandria, VA 22313-1450

A handwritten signature in cursive script, appearing to read "Van H. Nguyen".

Van H. Nguyen